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ABSTRACT

A study investigated the relative effect of 45-minute and 90-minute daily instruction in English as a Second Language (ESL) on limited English proficient (LEP) first-graders' language and overall achievement. The subjects were two groups of pupils from different schools: (1) 13 pupils from 7 language backgrounds, receiving 45 minutes of instruction daily; and (2) 17 pupils representing 5 native languages, receiving 90 minutes of instruction. Data used for analysis included reading and language test scores, oral language proficiency test scores, and teacher-provided information on overall grades. Results indicate that the pupils in shorter ESL class, which was also smaller, made higher grades in the regular classroom than did the other group. The short-class group also had higher oral proficiency test scores, but not significantly higher reading and language test scores. It is concluded that class size and time may have some significant effect on regular classroom achievement and oral language achievement but not may not affect scores on standardized achievement tests. (MSE)

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EFFECTS OF ESL TIME AND CLASS SIZE ON THE ACHIEVEMENT OF LEP STUDENTS

by
Robin Oberg

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ASE 579
A Research Project
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Dr. Jerry C. McGee
November 29, 1993

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ABSTRACT

Effect of ESL Time and Class Size on the Achievement of LEP Students

by

Robin Oberg

The null hypothesis for the study stated that there was no significant difference between the achievement of first grade LEP students served in ESL 45 minutes daily compared to those served 90 minutes daily. The sample consisted of all first grade ESL students from the two elementary campuses in CSISD with the largest LEP populations. One elementary pulled its students for 45 minute ESL classes, while the other provided 90 minute ESL classes. Data collected included ITBS reading and language scores, IPT Oral Language Proficiency Test scores, and information provided by first grade teachers of overall grades of ESL students in the regular classroom. The 45 minute ESL classes were smaller in size than the 90 minute classes.

Information regarding grades in the regular classroom was obtained through a questionnaire and reported as frequency and percentage data. The preponderance of evidence showed that students in the 45 minute ESL classes made higher grades in the regular classroom than the 90 minute students. Since the 45 minute classes have less students than the 90 minute classes, class size may have some effect on the higher regular classroom achievement of the students.

ITBS and IPT data were analyzed using t-tests. The differences of the 45 minute ESL class above the 90 minute ESL class proved to be significant on IPT scores. The differences of the 45 minute class above the 90 minute ESL class was not significant on the ITBS scores. Class size and time may have some significant effect on oral language achievement, but may not affect scores on standardized achievement tests.

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CHAPTER 1

INTRODUCTION

General Introduction

English as a Second Language (ESL) programs are being formed in increasingly more schools. ESL is designed to provide limited English proficient (LEP) students with skills necessary to function successfuly in a regular academic program.[1] There are a variety of program options available for school districts. School districts design their ESL programs based on the needs of the students. Variables that influence the kind of program that is designed include: 1) student population, 2) individual student characteristics, and 3) district resources.[2] College Station Independent School District (CSISD) has relatively small numbers of LEP students from many different language groups. These students are scattered across grades levels and across schools.[3]

Because of the resources available, as well as the numbers and characteristics of the student population, CSISD has a pull-out ESL program at the elementary campuses. At the middle, junior high, and high schools, ESL is a class period program.[4]

School districts in the state of Texas are required to provide ESL classes for LEP students.[5] Prior to the 1990 school year, schools that served LEP students with a pull-out ESL program were required to serve them for not less than 45 minutes daily. For class period programs, the minimum time required for serving students was one class period.. During this time, CSISD was able to serve all campuses with two ESL teachers. In 1990, TEA provided school districts with a paper titled "Major Changes Regarding Education of Limited English Proficient Students." The paper was an update

to the Texas Public Education Handbook: Selected Public Rducation Laws, Rules and Explanations. Administrators were charged with the duty of implementing the changes specified.[6] One change specifically addressed time requirement regarding the time LEP students must be served by the ESL program.

> In prekindergarten through the elementary grades, instruction in English as a Second Language may vary from the amount of time accorded to instruction in English language arts in the regular program for non-limited English proficient students to total immersion in second language programs.[7]

CSISD now serves most LEP elementary school students with 90 minutes of ESL instruction daily. This is why there are now four ESL teachers employed by the district. One elementary school serves first grade ESL students 45 minutes instead of the required 90, citing that the extra time would not allow students to participate in the Write to Read program newly implemented for first graders on that campus . The other elementary campuses do not have that program, so all other first grade LEP students receive 90 minutes of ESL instruction.[8]

Statement of the Problem

Regular classroom teachers do not want students pulled from their classes for long periods of time

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Purpose

The purposes of this study is to explore the issue of larger class size and extended class time versus smaller classes and shortened class time regarding the achievement of LEP students.

Importance of the Study

This study has important implications for ESL pull-out programs. It is useful for schools that are trying to design an effective ESL pull-out program. Districts will be able to use the findings of this study to help decide how much time should be spent serving LEP students in an ESL pull-out program, as well as determine ESL class size.

Definition of Terms

1. Home Language Survey (HLS)-a questionnaire required of all students enrolled in Texas public schools, requires the indication of the language most often used in the students home, and the language most often used by the student.
2. IDEA Proficiency Test (IPT)- an oral language proficiency test.indicating the student's proficiency in oral English.
3. Limited English Proficient (LEP)-refers to students who are not proficient in the English language according to standards set by the state of Texas.
4. Oral Language Proficiency Test (OLPT)-a test given to determine the student's level of proficiency in oral English.

Null Hypothesis

There is no significant difference between the achievement of first grade LEP students served in ESL 45 minutes daily compared to those served 90 minutes daily.

Limitations and Delimitations

This study is limited to the College Station Independent School District, Texas. It is delimited to first graders at two elementary campuses, South Knoll Elementary and College Hills Elementary during the 1992-1993 school year.

Assumptions

1. There is a degree of consistency in teaching styles on and between campuses in CSISD.
2. The ESL programs at these two campuses are representative of ESL programs at all of the elementary campuses in CSISD.
3. The sample is representative of current and future ESL students in CSISD.

CHAPTER 2

REVIEW OF RELATED LITERATURE AND RESEARCH

A review of the related literature and research provided very little information in the areas of class size and class time in relation to ESL. Descriptions of ESL programs and rationale for such programs proved helpful in identifying related studies. Studies of special program evaluations, including ESL and Chapter 1 compensatory programs, proved insight into ways of measuring successful programs. Related studies identified quality compensatory programs and discussed pull-out program effectiveness. Other related studies focused on the class size, but the studies used college classes as the samples.

Why do some school districts decide to implement ESL as a pull-out program? In the article, "Different Types of ESL Programs," McKeon reported O'Malley and Waggoner as stating that nearly one in four teachers has had LEP students in class. McKeon continued to explain that if a district has small numbers of LEP students from many different language backgrounds, across grade levels and across schools, a pull-out program may be the only feasible solution.[9] A pull-out program allows the district to group the students by languages, language proficiency levels, and/or grade levels, as well as provides for the possibility of one teacher who travels to serve LEP students at several campuses. For many districts, a pull-out program allows for optimal use of teachers and other resources.

As for evaluating academic achievement of LEP students, several studies were available. Vickie Lewelling reported Collier as listing the following sources as tools for evaluating academic achievement of LEP students: (1) teacher-made tests in each subject area, (2) grade point

average, (3) tests designed by the school district to measure the attainment of local school curriculum objectives, and (4) standardized tests.[10]

In 1988, TEA published a report evaluating bilingual/ESL education in Texas. At that time, there were approximately 274,145 LEP students in Texas public schools. Ninety-three percent of the students came from Spanish-speaking homes. Others were from Vietnamese, Cambodian, Korean, Japanese, French, German, Farsi, Arabic, and Chinese language groups. The achievement of these students participating in ESL programs was evaluated using achievement test scores, Texas Educational Assessment of Minimal Skills (TEAMS) scores, oral language proficiency test measures, promotion rates, exit rates, and mastery of essential elements.[11] Approximately 71 percent of the districts with more than 1,000 students had ESL as a pull-out program.[12] In school districts with 5,000 to 9,000 students, about 36 percent of the first grade ESL students exited the program in 1987.[13] The study did not report average class sizes or average class times for the ESL pull-out programs evaluated.

A 1990 report by Maria Ariza used achievement and oral language proficiency test scores to measure achievement of LEP students in the New Beginnings Program. The program was a transitional program designed to accelerate achievement of LEP students new to the United States.[14] New Beginnings was a program designed for secondary students in Dade County, Florida. The students recieved three consecutive hours in ESL daily. LEP students not in New Beginnings received two hours ESL instruction daily. Although the test scores were inconclusive, the program was seen as successful based on other criteria, including attendance, teacher surveys, and student surveys.[15]

Similar to the New Beginnings Program, Austin Independent School District published a report on its Newcomer Program. The goal was to raise achievement of LEP students who had been in the United States less than one year, were illiterate, or had interrupted schooling. The students were from Mexico, Vietnam, Pakistan, Guatamala, Honduras, and El Salvador.[16] The program was designed to have small classes. Students received four hours of intensive language instruction, one period of physical education, and two hours of content instruction. On the Language Assessment Battery (LAB), an oral language proficiency test, given in the fall and the spring, the students gained an average of nine raw points. Other assessments included attendance, grade point averages, credits earned, and drop out rates.[17]

An evaluation of ESL programs in the Cleveland, Ohio public schools reported achievement of LEP students in terms of achievement test scores and oral language proficiency test scores. The ESL program served 660 students in grades prekindergarten through eight. Each student was served in ESL a minimum of 45 minutes daily. Using the California Test of Basic Skills (CTBS), the students were tested in the fall and in the spring.[18] An improvement of +7 NCE was expected on the CTBS. On the vocabulary portion, first grade LEP students averaged -13.19 NCE. In the fall, the percentile rank for the first grade was 41 percent. In the spring, it had fallen to 19 percent.[19] Reading comprehension in the first grade group fell from 52 percent to 26 percent.[20] On the Language Assessment Scales (LAS), the oral language proficiency test, the students showed a significant improvement ($p<0.5$). First graders went from 4.15 to 6.58 on the comprehension section of the LAS. On the oral production section, the first graders went from 1.02 to 2.09.[21]

All of the studies reported in this paper, and most of the ones reviewed but not reported here, included achievement and oral language proficiency testing as a means for evaluating LEP student achievement. Although some of the reports make reference to small class size and more time in ESL classes as ways to improve ESL programs, none of the studies specifically attributes improved LEP student achievement to small classes or extended class time in ESL.

Some of the literature reviewed was not specifically regarding ESL, but many of the studies were appropriate because they addressed the concept of pull-out programs. In addressing pull-out programs, these studies included class size and time as factors affecting the programs.

In a statewide evaluation of compensatory education programs, TEA cited the United States Department of Education as linking small instructional groups and increased instructional time to achievement.[22] In contrast, the same study reported that a study done by Slavin and Madden concluded that the more time students spent in pull-out programs, the less they learned.[23]

Slavin and Madden also addressed class size as well instructional time in a paper on effective pull-out programs. They described one kind of effective pull-out program as the diagnostic-prescriptive program. Qualifying students are assessed and given instruction appropriate to their needs by a teacher in a location separate from the regular classroom. The instruction is given to individuals or to small groups of three to eight students.[24] Conversly, Slavin and Madden also contended that instruction in the diagnostic-prescriptive pull-out programs may not be much better than that in the regular classroom. They claimed it was unrealistic to expect that 30-45 extra minutes of instruction would make a difference in instruction.[25]

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The results from the studies on pull-out programs stated that effective programs have small class sizes and extended class times. The studies also contradicted these results by stating that time spent in pull-out programs may not further achievement. Even though these studies applied to compensatory education programs, they may have implications for ESL pull-out programs as well.

Two studies addressing higher education have also been reviewed because of information addressing class sizes and instructional time. The first study addressed language learning in England. Much attention was given to the fact that classes seemed to be growing and that there was no conclusive evidence that large class sizes affected achievement. However, Coleman did find that teachers could overcome many hardships. The one hardship that teachers did not seem to overcome was the unhappiness they had about having large classes.[26]

In a study done at Bolton College, Maryland, Bolton studied intermediated ESL students in a composition ESL class. The class was originally divided into three sections of 25-30 students.[27] The students were from Asia, South and Latin America, the Middle East, Europe, Africa, India, and other contries.[28] Bolton hypothesized that one large class of about 100 students three times a week would be better than having three sections of 25-30 students each. This allowed the teacher more preparation time and more time for office hours.[29] The conclusion was that there was no significant difference in the achievement of the students in one large class than the achievement of students in the smaller classes.[30] The review of these two studies suggests that, at least at the college level, class size has no effect on student achievement.

The review of the literature related to ESL, class size, and instructional time was inconclusive. Although much of the literature made references to class size and/or instructional time, the results were contradictory. Most of the studies cited effective programs as having small classes, but class size was not addressed as making a difference in student achievement. Many of the studies mentioned innovative programs with extented time for instruction, but instructional time was not cited as specifically affecting student achievement. A review of the related literature and research affirms the need for further study in class size and instructional time in ESL classes.

CHAPTER 3

METHODS AND PROCEDURES

Permission for the Study

Guidelines for conducting research in CSISD were provided by the CSISD Office of Instruction. A letter explaining the reasons for the research and an application in the form outlining the research project were submitted to the CSISD Research Review Committee. John P. Rouse, Assistant Superintendent for Curriculum and Instruction in CSISD responded with a letter of approval from the Research Review Committee.

The Sample

The sample of this studies included all ESL first grade students from the two elementary schools in CSISD with the largest LEP populations. One elementary school served the first grade ESL students in a pull-out program for 45 minutes daily, while the other campus served its LEP students 90 minutes daily. The 45 minute program sample consisted of 13 first grade students representing seven different first languages: five Korean, two Chinese, two Spanish, one Persian, one Hindi, one Serbo Croatian, and one Polish. The 90 minute program sample consisted of 17 first grade students representing five different first languages: seven Chinese, four Korean, four Spanish, one Bulgarian, and one Hebrew.

The Survey and Analysis

A survey was designed to assess teachers' attitudes on time students are, and should be, pulled for ESL instruction. It also provided input as to

the teachers' perceptions of ESL student achievement in the regular program by asking for an overall average of ESL students in the regular classroom.

The questionnaire consisted of eight questions and was divided into two sections. The first asked questions about general teaching experience, experience with ESL students and ESL methods, and teacher preferences on subjects from which the students should be pulled, as well as the amount of time they should be pulled for ESL instruction. Question five asked from which subjects teachers recommended pulling students to attend ESL classes. Since some teachers chose more than one subject, the questionnaire was renumbered, and each subject was treated as having a yes/no response. The second part of the survey asked about amounts of time ESL students were actually pulled for ESL instruction and grades the ESL students received in the regular classes. A space was provided for any additional comments from the teachers. For purposes of entering data, the questionnaire was treated as having 11 questions.

The questionnaires were sent to all 26 first grade teachers in CSISD with a letter briefly explaining the study, specifiying a deadline and method for return, and providing information on availability of the results. The surveys were collected by the ESL teacher on each campus. Nineteen surveys were returned giving a 73 percent return rate.

Data from the questionnaires were entered on an 1100 Data Entry Terminal using Scantron form 882-E in an IBM machine. The program allowed the data to be disaggregated to provide percentage and frequency data used to determine prepoderance of evidence. The data were disaggregated to provide information on the regular classroom achievement of students whose teachers reported 45 minute ESL classes and of those whose teachers reported 90 minute ESL classes. The questionnaire also

provided information on how much time first grade teachers would like to have ESL students pulled from the regular classroom for ESL instruction.

The Data and Analysis

Data were gathered and reported by the ESL teachers from both campuses. The ESL teachers provided data on class sizes, indicating 45 minute classes with six to eight students and 90 minute classes with nine to 15 students. Test data were taken directly from the Language Proficiency Assessment Committee documentation. Data consisted of national percentile scores on the reading and language portions of the Iowa Test of Basic Skills (ITBS) and the IDEA Oral Language Proficiency Test (IPT) pre-test and posttest. Since the IPT test scores are letter scores, A, B, C, D, E, F and M, with A being the lowest score, each letter was given a number value in order to run statistical tests using continuous data. The numbers used corresponded to the previous letters, 40, 50, 60, 70, 80, 90, and 100. The IPT pretest and posttest scores were used to give an average gain over the year for each group. A t-test was run on all data broken down to compare the 45 minute group to the 90 minute group. The t-test was run on a Macintosh computer using "Statworks" software. The level of significance used for this study was $p<.05$. "Statworks" was also used to produce tables Figures were produced by "Microsoft Works" software on a Macintosh computer.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

Questionnaire

Nineteen of 26 questionnaires were returned yielding a return rate of 73 percent. Of the first grade teachers responding, 32 percent had taught one to three years, 42 percent had four to nine years teaching experience, and 26 percent had taugh for more than ten years. Thirty-two percent of the teachers had had some ESL methods training while 68 percent had had none.

Eighty-four percent of the teachers reported having had ESL students in first grade classes in CSISD compared to 16 percent who had not had ESL students in CSISD. When given a choice between pulling ESL students out of regular classes for daily ESL instruction for 45 minutes or 90 minutes, 58 percent of the teachers chose 45 minutes, 32 percent chose 90 minutes, five percent responded that either was fine, and five percent did not respond. Using a preponderance of evidence, the teachers preferred the shorter, 45 minute ESL classes to the 90 minute classes (Figure 1).

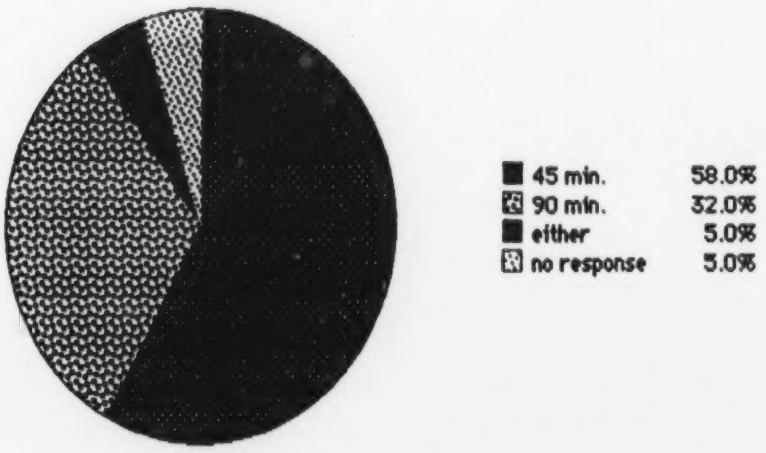

Figure 1

Teacher Preferences on Amount of Time Students Should Be Pulled Out for ESL Instruction

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For puposes of entering data, the question regarding preference of subjects from which students should be pulled was broken down into four yes/no questions. Thirty-two percent of the teachers indicated a preference for pulling students from science. Sixty-eight percent did not choose to pull students from science. Thirty-seven percent were in favor of pulling students from reading, while 63 percent were not. Thirty-two percent indicated a preference for pulling students from language arts, and 68 percent preferred that students not be pulled from language arts. Forty-

seven percent favored pulling students from social studies compared to 53 percent who did not choose to pull students from social studies. The highest percentage of teachers favored pulling students from social studies over science, reading, and language arts.

Eighteen teachers responded to the last part of the survey indicating they had had ESL students in their classes at one time during their teaching careers. Ninety-four percent of the teachers had had students pulled out of the regular classroom for daily ESL instruction. Six percent did not have the ESL students pulled on a daily basis. Regarding generalized regular classroom achievement of ESL students, most ESL students received A's and B's. Thirty-three pecent of the teachers reported ESL student grades in the 100-90 range. Thirty-nine percent reported grades in the 89-80 range. Six percent indicated grades in the 79-70 range, and six percent reported overall grades below 70. Seventeen percent of the respondents indicated other grade groupings and were reported as "other" for purposes of reporting data. Forty-one percent of the teachers who had taught ESL students in regular classes reported ESL students were pulled for ESL instruction 45 minutes daily. Thirty-five percent indicated students being pulled for 90 minutes, and 24 percent responded with other times, indicating either 30 or 60 minute pull-out programs. It is interesting to note that, in disaggregating the data, 86 percent of the 45 minute ESL students recieved grades in the 100-89 range compared to 49.5 percent of the 90 minute ESL students in the same grade range (Figures 2 and 3).

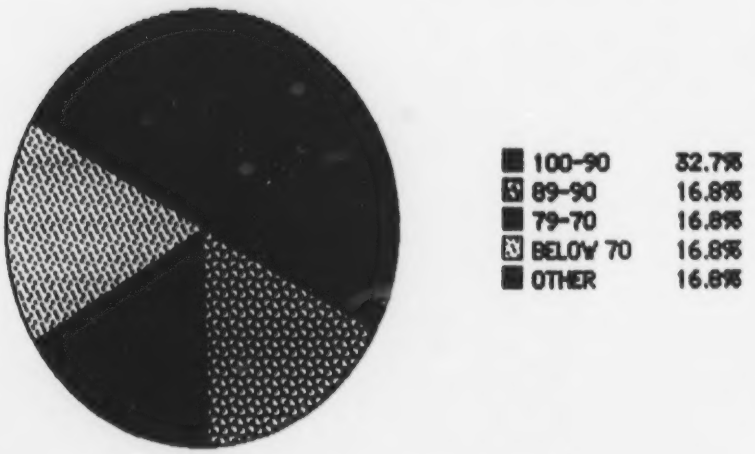

Figure 2

Grades 90 Minute ESL Students Receive
in Regular Classrooms

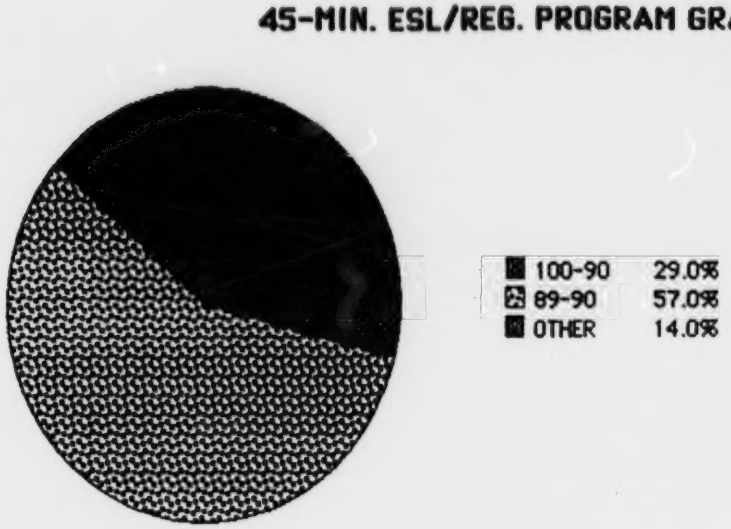

Figure 3

Grades 45 Minute ESL Students Receive
in Regular Classrooms

Class Size

The mean class size of a 45 minute ESL pull-out class was 7.08. The mean class size of a 90 minute ESL pull-out class was 11.31. Using a t-test to analyze the differences in the class sizes showed a degree of significance of 0.001. Since $p<.05$, there is a significance between the class sizes of the 45 and 90 minute programs (Table 1). To determine if class size difference affected student achievement, analysis of test data was necessary. Since the 45 minute class size was significanly different compared to the 90 minute

class size, analysis of test data was done using the 45 minute and 90 minute groupings.

Table 1

A t-test Comparing 45 Minute ESL Class Size to 90 Minute ESL Class Size

Data File: ESL Size/Time

Paired Samples...

Variable:	Class Size /45	Class Size/90
Mean:	7.08	11.31
Std. Deviation:	1.04	3.04
Paired Observations:	13	
t-statistic:	-4.46	Hypothesis:
Degrees of Freedom:	12	Ho: $\mu 1 = \mu 2$
Significance:	0.001	Ha: $\mu 1 \neq \mu 2$

Class Time/Achievement

Figure 4 shows the IPT gains of the 45 minute class to be approximately 33 points. The 90 minute class shows an IPT gain of nearly 17 points.

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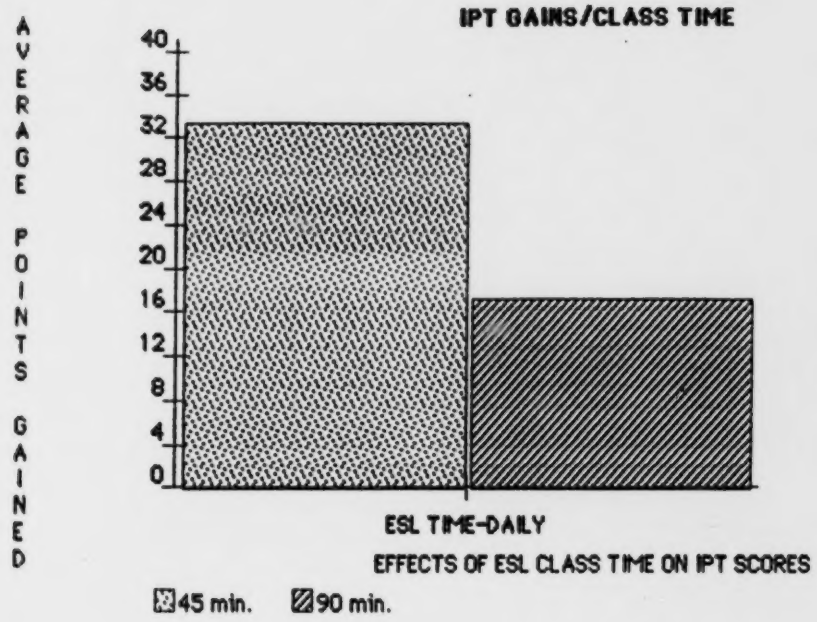

Figure 4

Averages of IPT Gains in 45 Minute ESL Classes and 90 Minute ESL Classes

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A t-test indicates p=0.019. Since p<.05, the IPT gains of the 45 minute class over the 90 minute class is significant (Table 2), indicating that less time in ESL pull-out classes reflected higher oral language proficiency gains in ESL students. At the same time, since the 45 minute class is significantly smaller than the 90 minute class, the smaller class size may have some bearing on the higher IPT gains of the 45 minute class.

Table 2

A t-test Comparing IPT Gains of 45 Minute ESL Students to 90 Minute ESL Students

Data File: ESL Size/Achiev.
Paired Samples...

Variable:	IPT GAINS 45	IPT GAINS 90
Mean:	33.08	16.92
Std. Deviation:	13.77	17.50
Paired Observations:	13	

t-statistic:	2.72	Hypothesis:
Degrees of Freedom:	12	Ho: $\mu 1 = \mu 2$
Significance:	0.019	Ha: $\mu 1 \neq \mu 2$

Although Figure 5 shows the 45 minute class recieving higher percentile rankings on the reading and language portions of the ITBS than the 90 minute group,. a t- test determined the significance of the comparisons. Table 3 shows the mean to be 55 percent for the 45 minute class on the ITBS reading compared to 43.77 percent for the 90 minute class. Since p=0.144, the difference is not significant.

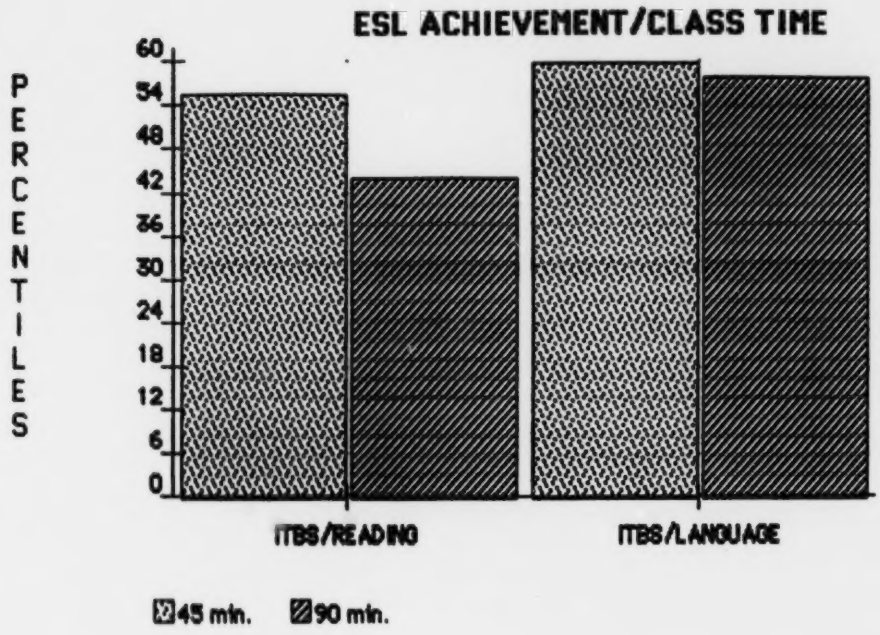

Figure 5

ITBS Reading and Language Percentiles of 45 Minute ESL Students and 90 Minute ESL Students

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Table3

A t-test Comparing ITBS Reading Scores of 45 Minute ESL Students to 90 Minute ESL Students

Data File: ESL Time/Achiev.

Paired Samples...

Variable:	ITBS READ45	ITBS READ90
Mean:	55.00	43.77
Std. Deviation:	22.85	27.59
Paired Observations:	13	

t-statistic:	1.57	Hypothesis:
Degrees of Freedom:	12	Ho: $\mu 1 = \mu 2$
Significance:	0.144	Ha: $\mu 1 \neq \mu 2$

In addition, Table 4 shows the mean of the 45 minute group to be 59.46 percent on the language portion of the ITBS. The mean of the 90 minute group was 57.46 percent. A t-test indicated p=0.780. Again, the difference was not significant. No significant difference can be seen between achievement of students in 45 minute classes compared to 90 minute classes. Concurrently, no significant difference can be seen between achievement of students in the smaller class compared to the larger classes.

Table 4

A t-test Comparing ITBS Language Scores of 45 Minute ESL Students to 90 Minute ESL Students

Data File: ESL Time/Achiev.

Paired Samples...

Variable:	ITBS LANG45	IPT GAINS 90
Mean:	59.46	16.92
Std. Deviation:	29.43	17.50
Paired Observations:	13	

t-statistic:	4.67	Hypothesis:
Degrees of Freedom:	12	Ho: $\mu 1 = \mu 2$
Significance:	0.001	Ha: $\mu 1 \neq \mu 2$

CHAPTER 5

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

The review of literature related to the effect of class size and class time in pull-out programs on achievement was inconclusive and contradictory. Related literature cited small classes and extended class time as factors in effective programs, but did not specifically link size and time with achievement.

For this study, the sample was selected from the two elementary schools in CSISD with the largest LEP student populations. The students chosen were first grade ESL students during the 1992-1993 school year. One elementary school served the first grade ESL students in a 45 minute pull-out program in classes containing six to eight students. The other elementary served first grade ESL students in a 90 minute pull-out program in classes containing 9-15 students. Data collected included a questionnaire, IPT test scores, pre and post, and national percentiles on the reading and language portions of the ITBS.

The teacher survey confirmed that classroom teachers prefer to have the students pulled out shorter periods of time. Fifty-eight percent of the teachers chose to have students pulled out 45 minutes, while 32 percent chose a 90 minute pull-out program. The survey also revealed that students who were pulled out for 45 minutes made higher grades than the students who were pulled out 90 minutes.

There was a significant difference in class sizes between the two groups. The 45 minute class had less students than the 90 minute class.

A significant difference was found between IPT gains, with the 45 minute class showing higher gains than the 90 minute class. No significant differences could be found between ITBS reading or language scores of the two groups.

Conclusions

Smaller class sizes with shorter pull-out times may positively affect oral language proficiency of first grade ESL students. In addition, success in the regular first grade program, as measured by number grades, may also be affected by pull-out time. Students pulled out 45 minutes made higher grades than students pulled out 90 minutes. Neither class size nor pull-out time can be connected to achievement on the ITBS reading and language tests.

Since both class size and pull-out time were considered in this study, it is impossible to draw a conclusion based on just one factor. Although the study indicated that 45 minute classes with six to eight students seem to positively affect oral language achievement and grades more than 90 minute classes with nine to 15 students, generalizations cannot be made about shorter or longer time periods or different class sizes.

Based on analysis of data, the null hypthesis was rejected in reference to oral language proficiency and regular classroom achievement. There was a significant difference between oral language proficiency achievement and regular classroom grades of students in a 45 minute pull-out program compared to a 90 minute pull-out program. The students in the 45 minute program made significantly higher gains on the IPT, and a preponderance of evidence shows higher grades in the regular classroom.

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In reference to ITBS reading and language achievement, the null hypothesis was accepted. There was no significant difference in the ITBS achievement of students in a 45 minute program compared to the 90 minute program.

Recommendations

For replication, the use of OLPT and achievement test scores is recommended. The scores provide a basis for evaluation that is consistent throughout most ESL programs. Although it is difficult to pinpoint the significant factor, using class size in conjunction with class time is also recommended. Using one without the other may lead to inconsistent results.

The sample used for this study lead to a very limited generalization. It could only generalize back to first grade ESL students in CSISD. In order to generalize to a larger population, a random sampling from several grade levels is recommended. Another consideration to be made in choosing a sample should be length of time the students have already been served in the ESL program. Knowing this factor could help provide more reliable findings between the two groups.

Based on the contradictory conclusions of this study and the studies reviewed in the related literature, more research on this topic is needed. To help districts plan the most effective ESL programs, extensive research is needed regarding factors that create excellent programs. Class size and program design, including ESL class time are key factors to be considered in designing programs.

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APPENDIXES

APPENDIX A

APPLICATION FOR RESEARCH
OCTOBER 6, 1993
ROBIN OBERG

I. Title: EFFECTS OF ESL CLASS TIME ON THE ACHIEVEMENT OF ESL STUDENTS

II. Researcher: Robin Oberg
A research project for ASE 579, Methods of Research,
Dr. Jerry McGee, Sam Houston State University

III. Theoretical basis of study: ESL pull-out programs are designed to teach limited-English speakers to become proficient in the English language. The goal is for the student to be able to be successful in the regular curriculum. TEA has mandated longer time requirements for ESL students to spend in ESL classes. The theory behind the mandate is that the more time ESL students spend in ESL instruction, the sooner they can become proficient and become part of the regular curriculum.

A. Research questions:

1. Does providing more time for ESL instruction affect class size?

2. Does providing more time for ESL instruction raise achievement of ESL students?

3. Does providing more time for ESL instruction guarantee a more rapid exit from the ESL program?

B. Null Hypothesis: There is no significant difference between the achievement of first grade LEP students served in ESL 45 minutes daily and those served 90 minutes daily.

IV. Contribution of study to research in education: This study will add much needed information in the area of ESL instruction. It will show whether adding more time for instruction in ESL affects class size. It will support TEA's position on ESL time requirements, or provide evidence for futher study and consideration.

V. Sampling design and rationale: The sample will be chosen from two

elementary schools with similar numbers of students. All first grade ESL students from these two schools will be used in the sampling to provide a sufficient number.

VI. Amount of time required for the study: This study will be complete by November 29, 1993.

VII. Why CSISD?

A. As an ESL teacher in CSISD, I am familiar with the program and know how to access the data needed for the study.

B. This study is relevant to CSISD because we are currently having some problems trying to serve our first grade students with ESL instruction for 90 minutes each day. This study may reveal some solutions for CSISD in handling its ESL population.

VI. Methodology

A. Data (to be collected by researcher)

1. ITBS scores

2. OLPT scores

3. Other data, such as nationalities, languages, free/reduced lunch status, and student ages.

B. Survey of first grade teachers

C. Data will be collected by November 12, 1993

D. Confidetiality: All data will be reported as grouped. No individual student or teacher data will be reported. If school district and school names need to remain anonymous, they will be reported by geographic location (i.e. a district in central Texas).

E. Data analysis procedures: Data will be analyzed with the help of Dr. McGee at SHSU using a t-test, chi square or other appropriate methods.

F. Final report will be submitted to CSISD by December 6, 1993.

October 6, 1993

Dear Research Review Committee:

This fall I was awarded a fellowship from Sam Houston State University to continue my education and receive a master's degree. One of the courses I am required to take is RSE 579, Methods of Research.

Dr. Jerry McGee is teaching this course and has assigned us a research project for this semester. The objective of the course is to prepare us to do research and write research studies.

Dr. McGee recommended that we choose a research topic to which we have a direct relationship. For this reason, I chose the time requirements mandated to our ESL program.

I have outlined my project as instructed in the "Guidelines for Conducting Research" provided by CSISD. If you need more information, please contact me.

I appreciate your consideration.

Respectfully,

Robin Oberg
ESL Teacher
Oakwood Middle School

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APPENDIX B

RESEARCH LETTER OF PERMISSION

College Station I.S.D.
Office of Instruction

'Always for Children'

Memorandum
To: Robin Oberg
From: John P. Rouse
Subject: Research Request
Date: October 11, 1993

The research review committee met and approved your request to conduct research in our district. We will be interested in your results. Please be sure to send us a copy of your findings.

Good luck with your research.

APPENDIX C

LETTER OF TRANSMITTAL

November 8, 1993

Dear Teacher:

The attached questionnaire is for use in a study of time requirements for ESL. The Research Review Committee of CSISD has approved research on this topic.

All first grade teachers in College Station ISD were chosen to complete this survey because the study focuses on first grade ESL students. It is important that you complete the survey and return it to the ESL teacher on your campus by **Wednesday, November 10.** Do not write your name on the questionnaire. All individual responses are confidential. Any data reported will be reported as grouped data. Results of the study will be completed by the first week in December and will be available from the CSISD Office of Curriculum and Instruction.

Circle only **one answer per question,** and fill in blanks where appropriate. Add comments at the bottom of the questionnaire about any question that is unclear.

Thanks for your cooperation,

Robin Oberg
ESL Teacher
College Station ISD

APPENDIX D

ESL TIME REQUIREMENTS QUESTIONNAIRE

DIRECTIONS: Please circle or answer <u>all</u> items that apply to you.

1. How many years have you taught first grade at this school? A. 1-3 B. 4-9 C. 10+
2. Have you had any ESL methods training? A. yes B. no
3. Have you had any ESL students in your class while teaching first grade at this school? A. yes B. no
4. Since ESL is a pull-out program at your school, of the two choices given, how long would you prefer for students to be pulled from your class every day ? A. 45 min B. 90min
5. From which of these subject s would you recommend the student be pulled to attend ESL? A. science B. reading C. language arts D. social studies

---

If you have ESL students in you class, now, or have ever had any ESL students, answer questions 6-8. If not, stop here.

6. If you have had ESL students in your class, were they pulled out of class for ESL instruction every day? A. yes B. no
7. How would you describe the <u>overall</u> grade average of the ESL students while they were in your classroom? A. 100-90 B. 89-80 C. 79-70 D. below
8. If they were pulled out for ESL instruction daily, about how many minutes were they out of your room every day? A. 45 min. B. 90 min. C. other_____

Table 5

Percentage Responses for ESL Time Requirements

Sam Houston State University
ESL TIME REQUIREMENTS

Total Responding: 19 NR= No Response Date: 11/14/93

Question		1 A	2 B	3 C	4 D	5 E	NR	Total	Average
1.	Number:	6	8	5	0	0	0	19	1.9
	Percent:	32%	42%	26%	0%	0%			
2.	Number:	6	13	0	0	0	0	19	1.7
	Percent:	32%	68%	0%	0%	0%			
3.	Number:	16	3	0	0	0	0	19	1.2
	Percent:	84%	16%	0%	0%	0%			
4.	Number:	11	6	1	1	0	0	19	1.6
	Percent:	58%	32%	5%	5%	0%			
5.	Number:	6	13	0	0	0	0	19	1.7
	Percent:	32%	68%	0%	0%	0%			
6.	Number:	7	12	0	0	0	0	19	1.6
	Percent:	37%	63%	0%	0%	0%			
7.	Number:	6	13	0	0	0	0	19	1.7
	Percent:	32%	68%	0%	0%	0%			
8.	Number:	9	10	0	0	0	0	19	1.5
	Percent:	47%	53%	0%	0%	0%			
9.	Number:	17	0	1	0	0	1	18	1.1
	Percent:	94%	0%	6%	0%	0%			
10.	Number:	6	7	1	1	3	1	18	2.3
	Percent:	33%	39%	6%	6%	17%			
11.	Number:	7	6	4	0	0	2	17	1.8
	Percent:	41%	35%	24%	0%	0%			

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Table 6

Percentage Responses for 45 Minute

ESL Pull-Out Programs

Sam Houston State University
ESL 45 MIN PULL OUT PROGRAM STUDENTS-DAILY

Total Responding: 7 NR=No Response Date: 11/14/93

Question	1 A	2 B	3 C	4 D	5 E	NR	Total	Average
1. Number:	2	1	4	0	0	0	7	2.3
Percent:	29%	14%	57%	0%	0%			
2. Number:	2	5	0	0	0	0	7	1.7
Percent:	29%	71%	0%	0%	0%			
3. Number:	7	0	0	0	0	0	7	1.0
Percent:	100%	0%	0%	0%	0%			
4. Number:	5	1	1	0	0	0	7	1.4
Percent:	71%	14%	14%	0%	0%			
5. Number:	3	4	0	0	0	0	7	1.6
Percent:	43%	57%	0%	0%	0%			
6. Number:	2	5	0	0	0	0	7	1.7
Percent:	29%	71%	0%	0%	0%			
7. Number:	2	5	0	0	0	0	7	1.7
Percent:	29%	71%	0%	0%	0%			
8. Number:	2	5	0	0	0	0	7	1.7
Percent:	29%	71%	0%	0%	0%			
9. Number:	7	0	0	0	0	0	7	1.0
Percent:	100%	0%	0%	0%	0%			
10. Number:	2	4	0	0	1	0	7	2.1
Percent:	29%	57%	0%	0%	14%			
11. Number:	7	0	0	0	0	0	7	1.0
Percent:	100%	0%	0%	0%	0%			

Table 7

Percentage Responses for 90 Minute

ESL Pull-Out Programs

Sam Houston State University
ESL 90 MIN PULL OUT PROGRAM STUDENTS-DAILY

Total Responding: 6 NR=No Response Date: 11/14/93

Question		1 A	2 B	3 C	4 D	5 E	NR	Total	Average
1.	Number:	3	2	1	0	0	0	6	1.7
	Percent:	50%	33%	17%	0%	0%			
2.	Number:	3	3	0	0	0	0	6	1.5
	Percent:	50%	50%	0%	0%	0%			
3.	Number:	5	1	0	0	0	0	6	1.2
	Percent:	83%	17%	0%	0%	0%			
4.	Number:	3	3	0	0	0	0	6	1.5
	Percent:	50%	50%	0%	0%	0%			
5.	Number:	2	4	0	0	0	0	6	1.7
	Percent:	33%	67%	0%	0%	0%			
6.	Number:	1	5	0	0	0	0	6	1.8
	Percent:	17%	83%	0%	0%	0%			
7.	Number:	1	5	0	0	0	0	6	1.8
	Percent:	17%	83%	0%	0%	0%			
8.	Number:	5	1	0	0	0	0	6	1.2
	Percent:	83%	17%	0%	0%	0%			
9.	Number:	6	0	0	0	0	0	6	1.0
	Percent:	100%	0%	0%	0%	0%			
10.	Number:	2	1	1	1	1	0	6	2.7
	Percent:	33%	17%	17%	17%	17%			
11.	Number:	0	6	0	0	0	0	6	2.0
	Percent:	0%	100%	0%	0%	0%			

Table 8

Percentage Responses for Other

ESL Pull-Out Programs

Sam Houston State University
ESL OTHER PULL OUT PROGRAM STUDENTS--DAILY

Total Responding: 4 NR=No Response Date: 11/14/93

Question		1 A	2 B	3 C	4 D	5 E	NR	Total	Average
1.	Number:	1	3	0	0	0	0	4	1.8
	Percent:	25%	75%	0%	0%	0%			
2.	Number:	0	4	0	0	0	0	4	2.0
	Percent:	0%	100%	0%	0%	0%			
3.	Number:	3	1	0	0	0	0	4	1.3
	Percent:	75%	25%	0%	0%	0%			
4.	Number:	2	1	0	1	0	0	4	2.0
	Percent:	50%	25%	0%	25%	0%			
5.	Number:	0	4	0	0	0	0	4	2.0
	Percent:	0%	100%	0%	0%	0%			
6.	Number:	2	2	0	0	0	0	4	1.5
	Percent:	50%	50%	0%	0%	0%			
7.	Number:	3	1	0	0	0	0	4	1.3
	Percent:	75%	25%	0%	0%	0%			
8.	Number:	1	3	0	0	0	0	4	1.8
	Percent:	25%	75%	0%	0%	0%			
9.	Number:	4	0	0	0	0	0	4	1.0
	Percent:	100%	0%	0%	0%	0%			
10.	Number:	1	2	0	0	1	0	4	2.5
	Percent:	25%	50%	0%	0%	25%			
11.	Number:	0	0	4	0	0	0	4	3.0
	Percent:	0%	0%	100%	0%	0%			

Table 9

Percentage Responses for ESL 45 Minute

Pull-Out Program Preference

Sam Houston State University
ESL 45 MIN PULL OUT PROGRAM_PREFERENCE

Total Responding: 11 NR=No Response Date: 11/14/93

Question		1 A	2 B	3 C	4 D	5 E	NR	Total	Average
1.	Number:	4	5	2	0	0	0	11	1.7
	Percent:	36%	45%	18%	0%	0%			
2.	Number:	2	9	0	0	0	0	11	1.8
	Percent:	18%	82%	0%	0%	0%			
3.	Number:	9	2	0	0	0	0	11	1.2
	Percent:	82%	18%	0%	0%	0%			
4.	Number:	11	0	0	0	0	0	11	1.0
	Percent:	100%	0%	0%	0%	0%			
5.	Number:	4	7	0	0	0	0	11	1.6
	Percent:	36%	64%	0%	0%	0%			
6.	Number:	1	10	0	0	0	0	11	1.9
	Percent:	9%	91%	0%	0%	0%			
7.	Number:	2	9	0	0	0	0	11	1.8
	Percent:	18%	82%	0%	0%	0%			
8.	Number:	6	5	0	0	0	0	11	1.5
	Percent:	55%	45%	0%	0%	0%			
9.	Number:	10	0	0	0	0	1	10	1.0
	Percent:	100%	0%	0%	0%	0%			
10.	Number:	5	4	0	0	1	1	10	1.8
	Percent:	50%	40%	0%	0%	10%			
11.	Number:	5	3	2	0	0	1	10	1.7
	Percent:	50%	30%	20%	0%	0%			

Table 10

Percentage Responses for ESL 90 Minute

Pull-Out Program Preference

Sam Houston State University
ESL 90 MIN PULL OUT PROGRAM PREFERENCE

Total Responding: 6 NR=No Response Date: **11/14/93**

Question		1 A	2 B	3 C	4 D	5 E	NR	Total	Average
1.	Number:	1	3	2	0	0	0	6	2.2
	Percent:	17%	50%	33%	0%	0%			
2.	Number:	3	3	0	0	0	0	6	1.5
	Percent:	50%	50%	0%	0%	0%			
3.	Number:	6	0	0	0	0	0	6	1.0
	Percent:	100%	0%	0%	0%	0%			
4.	Number:	0	6	0	0	0	0	6	2.0
	Percent:	0%	100%	0%	0%	0%			
5.	Number:	2	4	0	0	0	0	6	1.7
	Percent:	33%	67%	0%	0%	0%			
6.	Number:	4	2	0	0	0	0	6	1.3
	Percent:	67%	33%	0%	0%	0%			
7.	Number:	2	4	0	0	0	0	6	1.7
	Percent:	33%	67%	0%	0%	0%			
8.	Number:	3	3	0	0	0	0	6	1.5
	Percent:	50%	50%	0%	0%	0%			
9.	Number:	5	0	1	0	0	0	6	1.3
	Percent:	83%	0%	17%	0%	0%			
10.	Number:	1	3	1	1	0	0	6	2.3
	Percent:	17%	50%	17%	17%	0%			
11.	Number:	1	3	1	0	0	1	5	2.0
	Percent:	20%	60%	20%	0%	0%			

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Table 11

Raw Data

Copy of ESL Size/Achiev.

	Class Size /45	PRE-IPT/45	POST IPT/45	ITBS READ45	ITBS LANG45	Class Size/90	PRE IPT/90	POS
1	8	60	100	29	25	15	40	
2	8	60	100	75	54	9	60	
3	6	60	90	79	77	9	60	
4	6	60	70	19	42	15	60	
5	6	60	100	77	99	15	40	
6	8	60	100	52	25	9	50	
7	6	60	100	69	75	9	60	
8	6	60	100	54	67	9	60	
9	8	40	70	63	59	9	60	
10	8	60	100	59	86	9	50	
11	6	50	100	65	96	15	70	
12	8	60	90	67	67	9	60	
13	8	60	60	7	1	15	50	
14						15	50	
15						15	60	
16						9	50	
17						15	70	

Copy of ESL Size/Achiev.

	ITBS READ90	ITBS LANG90	IPT GAINS 45	IPT GAINS 90
1	5	37	40	10
2	79	72	40	40
3	77	98	30	40
4	40	20	10	0
5	9	59	40	30
6	59	42	40	10
7	90	98	40	40
8	59	54	40	30
9	52	70	30	0
10	29	54	40	10
11	14	49	50	-10
12	54	79	30	0
13	12	25	0	20
14	34	54		20
15	59	54		10
16	54	17		10
17	59	49		0

Table 12

Descriptive Data/IPT Gains in 45

Minute ESL Classes

Data File: Copy of ESL Size/Achiev.
Variable: IPT GAINS 45 Observations: 13

Minimum:	0.00	Maximum:	50.00
Range:	50.00	Median:	40.00
Mean:	33.08	Standard Error:	3.82
Variance:		189.74	
Standard Deviation:		13.77	
Coefficient of Variation:		41.64	
Skewness:	-1.22	Kurtosis:	0.37

Table 13

Descriptive Data/IPT Gains in 90 Minute ESL Classes

Data File:	Copy of ESL Size/Achiev		
Variable:	IPT GAINS 90	Observations:	17
Minimum:	-10.00	Maximum:	40.00
Range:	50.00	Median:	10.00
Mean:	15.29	Standard Error:	3.85
Variance:		251.47	
Standard Deviation:		15.86	
Coefficient of Variation:		103.69	
Skewness:	0.30	Kurtosis:	-1.28

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Table 14

Descriptive Data/ITBS Reading in

45 Minute ESL Classes

Data File: Copy of ESL Size/Achiev.

Variable: ITBS READ45 Observations: 13

Minimum:	7.00	Maximum:	79.00
Range:	72.00	Median:	63.00
Mean:	55.00	Standard Error:	6.34
Variance:			522.17
Standard Deviation:			22.85
Coefficient of Variation:			41.55
Skewness:	-0.88	Kurtosis:	-0.67

Table 15

Descriptive Data/ITBS Reading in

90 Minute ESL Classes

Data File: Copy of ESL Size/Achiev.

Variable: ITBS READ90 Observations: 17

Minimum:	5.00	Maximum:	80.00
Range:	75.00	Median:	54.00
Mean:	45.59	Standard Error:	5.98
Variance:		608.88	
Standard Deviation:		24.68	
Coefficient of Variation:		54.13	
Skewness:	-0.28	Kurtosis:	-1.31

Table 16

Descriptive Data/ITBS Language in

45 Minute ESL Classes

Data File: Copy of ESL Size/Achiev.
Variable: ITBS LANG45 Observations: 13

Minimum:	1.00	Maximum:	99.00
Range:	98.00	Median	67.00
Mean:	59.46	Standard Error:	8.16
Variance:		866.10	
Standard Deviation:		29.43	
Coefficient of Variation:		49.49	
Skewness:	-0.45	Kurtosis:	-1.00

Table 17

Descriptive Data/ITBS Language in

90 Minute ESL Classes

Data File: Copy of ESL Size/Achiev.
Variable: ITBS LANG90 Observations: 17

Minimum:	17.00	Maximum:	98.00
Range:	81.00	Median:	54.00
Mean:	54.18	Standard Error:	5.48
Variance			510.65
Standard Deviation:			22.60
Coefficient of Variation:			41.71
Skewness:	0.13	Kurtosis:	-0.82

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